Multiple Choice Questions

- 1. Water intended for human consumption is referred to as
- A. distilled water.
- B. artesian water.
- C. ground water.
- **D.** drinking water.
- 2. Unpolluted freshwater supplies are known as
- A. approved public water supplies.
- **<u>B.</u>** potable waters.
- C. pristine water source.
- D. aquifers.

3. Water is the most important "good" provided by freshwater systems for human uses such

Sol

- as
- A. households.
- B. agriculture.
- C. industry.
- **D.** All of these are correct
- 4. Water supplies are distributed
- A. equally around the world.
- **<u>B.</u>** unequally around the world.
- C. throughout the world.
- D. None of these are correct.

5. By the year 2025, it is projected that _____ percent of the world's population will live in water-stressed river basins.

A. 28

B. 38

<u>C.</u> 48

D. 58

6. The fastest growing drink of choice in many parts of the world is

A. coffee.

B. soda.

<u>**C.**</u> bottled water.

D. beer.

7. In the United States, two agencies set the drinking water standards... one of which is the

- A. Department of Transportation.
- B. Department of Homeland Security.
- C. Department of Labor.
- **D.** Food and Drug Administration.

8. The term used to indicate processes that remove chemicals and pathogens from water is

A. deionized.

<u>B.</u> purified.

C. pasteurized.

D. distilled.

9. The amount of oxygen required to decompose organic matter is called

<u>A.</u> BOD.

- B. vadose zone.
- C. groundwater.
- D. DO.

10. Which nutrient(s) stimulates algae and aquatic plant growth?

- A. nitrates
- B. lead
- C. phosphates
- **D.** nitrates and phosphates
- 11. What is biochemical oxygen demand?
- A. amount of oxygen required to decay a certain amount of organic matter
- B. a necessary material that is in short supply
- C. method by which settled organic matter is returned to aeration tanks
- D. None of these are correct.
- 12. Eutrophication occurs when
- A. nutrient increase causes excessive plant growth.
- B. point source pollutants enter the groundwater
- C. fecal coliform bacteria enters drinking water.
- D. an industry returns heated water to its source
- 13. Water lost through the leaves of plants is called
- A. evaporation.
- **<u>B.</u>** evapotranspiration.
- C. photosynthesis.
- D. diffusion.

14. The process by which the Earth's water cleanses itself through solar evaporation, precipitation, and infiltration is called

- A. evapotranspiration.
- B. geologic cycle.
- <u>**C.**</u> hydrologic cycle.
- D. overland runoff.

15. A trickling filter system is generally used during which stage of sewage treatment? A. primary

<u>B.</u> secondary

C. tertiary

16. Which of the following is NOT a problem associated with groundwater mining? A. saltwater intrusion

B. subsidence

C. exhaustion of water supply

D. loss of wildlife habitat

17. Which of the following is a source of groundwater pollution?

A. increased organic matter

B. thermal pollution

C. agricultural runoff

D. oxygen depletion

18. What may be the effect of toxic chemicals on humans?

A. increased costs of water treatment

B. increased risk of certain cancers

C. reduced availability and healthfulness of fish

<u>D.</u> All of these are correct.

19. Which of the following accounts for two-thirds of all human-caused marine oil pollution?

A. runoff from streets

B. improper disposal of lubricating oil

C. discharges during loading and unloading of oil tankers

<u>D.</u> All of these are correct.

20. Which of the following is a source of groundwater contamination?

- A. agricultural products
- B. septic tanks
- C. radioactive disposal sites
- **<u>D.</u>** All of these are correct.

21. Worldwide, what two agricultural practices result in contamination of water?

- A. fertilizer and pesticide use
- B. creating buffer zones around all streams and ponds on a farm
- C. sewage treatment with chlorine and ozone
- D. regulation of point-source pollution

22. Which of these is a common contaminant of drinking water?

- A. nitrates from fertilizer and manures
- B. chlorine from sewage treatment plants
- C. oxygen from aquatic animals
- D. macroinvertebrates in ripples

23. In the United States, Las Vegas Nevada is one of the fastest growing population centers and this has resulted in

A. an increase in demand for water.

B. forcing the city to look for water farther away.

C. many people having to move away from the city.

D. Both an increase in demand for water and forcing the city to look for water farther away are correct.

24. Most large urban areas depend on which of the following for their water supply?

- A. large reservoirs
- B. rivers
- C. groundwater
- D. None of these are correct.

25. The upper surface of shallow groundwater is called a(n)

- A. water table.
- B. aquifer.
- C. aquiclude.
- D. unconfined aquifer.

26. The porous layer where water accumulates in the ground is called a(n)

- A. aquitard.
- B. confined aquifer.
- <u>C.</u> aquifer.
- D. aquiclude.

27. The major consumptive use of water in most parts of the world is for

- A. domestic use.
- **<u>B.</u>** agricultural use.
- C. in-stream use.
- D. industrial use.

28. Which of the following involves the removal of phosphorous and nitrogen from sewage?

- <u>A.</u> tertiary sewage treatment
- B. primary sewage treatment
- C. secondary sewage treatment
- D. activated sludge sewage treatment

29. Which of the following removes larger particles from sewage by screening or settling?

- A. tertiary sewage treatment
- B. activated sludge sewage treatment
- C. secondary sewage treatment
- **D.** primary sewage treatment

30. In the United States and Europe, the top use of water is for

<u>A.</u> industry.

- B. agriculture.
- C. recreation.
- D. drinking water.

31. What two activities use the most water for a typical North American family of four?

- A. bathing and cooking
- B. dishes and drinking
- C. lawns and toilets
- D. laundry and car washing

32. In which of the following college campuses is a sustainability initiative to reduce water

- consumption not currently underway? A. Duke University in North Carolina
- A. Duke University in North Carolina **B.** University of California at Daulada
- **<u>B.</u>** University of California at Berkeley C. Princeton University in New Jersey
- C. Princeton University in New Jersey
- D. Cuyamaca College in California

33. Which of these is an issue that commonly results in an international water dispute?

- A. hydroelectric facilities
- B. recreational use permits
- <u>C.</u> quotas and water allocation to different stakeholder groups
- D. wetland mitigation

34. What percent of sewage is treated in North America?

- <u>A.</u> 90%
- B. 75%
- C. 50%
- D. 25%

35. Plants in natural wetlands are able to remove ______ if sufficient river miles are undisturbed.

- A. radioactive isotopes
- B. DDT
- C. PCB
- **D.** nutrients

36. The vegetable basket of the United States in central California has what water problem?

- A. flooding
- **<u>B.</u>** groundwater depletion
- C. excessive use of dams
- D. mitigation of wetlands

37. What two land uses result in substantial wetland loss in the United States?

- A. rural development and forestry
- **B.** urban development and agriculture
- C. national parks and forestry
- D. military bases and rangeland grazing

38. Saltwater intrusion occurs when

<u>A.</u> groundwater pumped from wells along the coastline causes saline groundwater to move inland.

- B. saltwater is added to wells
- C. saltwater is added to lakes and ponds.
- D. saltwater is pushed upstream by encroaching storms.

39. Worldwide, there is a relationship between the price of water and the amount consumed as the price

- <u>A.</u> increases and water use decreases.
- B. increases and water use increases.
- C. decreases and water use decreases.
- D. decreases and water use increases.

- 40. The largest watershed in the world is the
- A. Zambezi.
- **<u>B.</u>** Nile.
- C. Mississippi.
- D. Amazon.
- 41. Worldwide, the top use of water is for
- A. drinking water.
- B. industry.
- C. recreation.
- **<u>D.</u>** agriculture.

Which of the following best matches the description?

42. Physical process of transferring water from one area to another.

MN.

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- A. point source
- B. water table
- C. aquifer
- D. septic tank
- E. unconfined aquifer
- F. confined aquifer
- G. aquiclude
- H. aquitard
- I. in-stream uses
- **J.** water diversion
- K. artesian aquifer
- L. groundwater mining
- M. landfills
- N. nonpoint source
- O. surface impoundment

43. Aquifer that is bound on the top and bottom by confining layers.

- A. point source
- B. water table
- C. aquifer
- D. septic tank
- E. unconfined aquifer
- **<u>F.</u>** confined aquifer
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- 44. An impermeable layer in an artesian aquifer

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45. Pressurized aquifer intersecting the surface from which water gushes without being pumped.

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A. point source

- B. water table
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- 46. Aquifer that usually occurs near the land's surface.

NN.

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- B. water table
- C. aquifer
- D. septic tank
- **<u>E.</u>** unconfined aquifer
- F. confined aquifer
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- H. aquitard
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47. A permeable layer in an artesian aquifer.

- A. point source
- B. water table
- C. aquifer
- D. septic tank
- E. unconfined aquifer
- F. confined aquifer
- G. aquiclude

H. aquitard

- I. in-stream uses
- J. water diversion
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48. Diffuse pollutants, such as agricultural runoff that are not from a single source.

MM.

- A. point source
- B. water table
- C. aquifer
- D. septic tank
- E. unconfined aquifer
- F. confined aquifer
- G. aquiclude
- H. aquitard
- I. in-stream uses
- J. water diversion
- K. artesian aquifer
- <u>L.</u> groundwater mining
- $\overline{\mathrm{M}}$. landfills
- N. nonpoint source
- O. surface impoundment

49. Removal of water from an aquifer faster than it is replaced.

- A. point source
- **<u>B.</u>** water table
- C. aquifer
- D. septic tank
- E. unconfined aquifer
- F. confined aquifer
- G. aquiclude
- H. aquitard
- I. in-stream uses
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fer. 50. Top of the layer of water in an aquifer. MM. K

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- F. confined aquifer
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- H. aquitard
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- M. landfills
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51. Underground tank into which sewage is pumped.

- A. point source
- B. water table
- C. aquifer
- **D.** septic tank
- E. unconfined aquifer
- F. confined aquifer
- G. aquiclude
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- erials. 52. Pond created to hold liquid materials.
- A. point source
- B. water table
- C. aquifer
- D. septic tank
- E. unconfined aquifer
- F. confined aquifer
- G. aquiclude
- H. aquitard
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- L. groundwater mining
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- N. nonpoint source
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53. Use of a stream's water flow for such purposes as hydroelectric power.

- A. point source
- B. water table
- C. aquifer
- D. septic tank
- E. unconfined aquifer
- F. confined aquifer
- G. aquiclude
- H. aquitard
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- J. water diversion
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- L. groundwater mining
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- 54. Method of disposing of solid waste that involves burying the waste.

MM.

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- C. aquifer
- D. septic tank
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- F. confined aquifer
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- L. groundwater mining
- **M.** landfills
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55. Layer of earth material that can transmit water sufficient for water supply purposes.

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- A. point source
- B. water table
- C. aquifer
- D. septic tank
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- F. confined aquifer
- G. aquiclude
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- L. groundwater mining
- M. landfills
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- 56. Pollution from a single pipe or series of pipes

M.

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- D. septic tank
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True / False Questions

57. The energy needed to drive the hydrologic cycle is provided by the sun \underline{TRUE}

58. Temperature change in water can alter the kinds and number of plants and animals. **TRUE**

59. Water is a solvent that can dissolve and carry substances, such as nutrients and domestic waste. TRUE

60. Protected forested watersheds help to maintain a steady flow of drinking water to many areas. **TRUE**

61. An influx of organic compounds containing nitrogen and phosphorus into aquatic environments can cause an increase in aquatic plant and algae growth. **TRUE**

62. Water that infiltrates the soil and is stored underground is called runoff. **FALSE**

63. Agricultural runoff and mine drainage are examples of point sources of pollution. **TRUE**

64. The amount of runoff and evaporation is directly related to land use. **FALSE**

65. Activated sludge sewage treatment is a type of primary wastewater treatment. **FALSE**

66. Thermal pollution occurs when industry returns heated water to its source. **TRUE**

67. Oxygen depletion can cause increased decomposition of organic matter. **FALSE**

68. The largest consumptive use of water is for municipal drinking water. **FALSE**

69. A major source of water pollution is municipal sewage. <u>TRUE</u>

70. Cooling ponds and cooling towers are methods of controlling thermal pollution. **TRUE**

71. Tertiary treatment removes large particles by filtering water through large screens. **FALSE**

72. Shortages of potable water can be attributed chiefly to natural, physical processes. **FALSE**

73. Water is a nonrenewable resource because once it is polluted, it is no longer potable. **FALSE**

74. Shorelands and wetlands are inadequate as buffers and filters for polluted water. **FALSE**

75. Lead found in drinking water is the leading cause of lead exposure. **FALSE**

76. Approximately 15% of bottled water is actually processed tap water. **TRUE**

77. Treated wastewater that meets federal and state standards drinking water standards is diverted for municipal drinking water for human consumption. **FALSE**

78. Water moves through a cycle referred to as the "water yield cycle." **FALSE**

79. Land use has an impact in how water infiltrates and on surface runoff. **TRUE**

80. Water diversion is part of the water-use planning process. **TRUE**

81. Groundwater mining accounts for nearly half of the drinking water in the United States. **TRUE**

82. Marine oil pollution is a type of water pollution. **TRUE**

83. There is little difference between point and non-point source pollution. **FALSE**

84. Water supplies are distributed evenly around the world. **FALSE**

85. "Water stress" is a situation in which disruptive water shortages can frequently occur. **TRUE**

86. The U.S. Federal Wild and Scenic Rivers Act of 1968 requires all federal agencies to consider the wild, scenic, or recreational value of rivers when planning river or adjacent land use.

FALSE

87. Las Vegas, Nevada, has seen a great increase in the demand for water since it is one of the fastest growing regions in the U.S.

<u>TRUE</u>

88. The Environmental Protection Agency helps regulate water uses in the United Kingdom. **FALSE**